

## Auto Quiz

Answers to Last Week's Questions.

1. Warm weather has a very decided effect on a carburetor. Air and heat are necessary for the carburetor to properly vaporize the gasoline. When the air line; 2—Disconnected electrical circuit;

is warm the vaporization takes place more quickly and with more efficiency, thus allowing the supply of gasoline to be cut down. This is called a "leaner mixture." In warm weather a lean mixture (which means less gasoline and more air) will give just as good results in the motor as a richer mixture in cold weather.

3—Timer trouble; 4—Loose electrical terminal; 5—Broken spark plug or wire; 6—A water leak into the cylinder; 7—Gasoline supply exhausted.

2. A common cause of mis-firing is an air leak through a worn valve guide or carburetor manifold connection. One way of telling an air leak through a valve guide is that oil leaks out while the motor is in operation. A bad leak in the carburetor manifold connection will produce a hissing sound.

4. A motor can be prevented from overheating when driving in low gear for a long time by reducing the gasoline mixture. Reduce the carburetor mixture as lean as possible for smooth running in low gear. As a richer fuel mixture will cause more heat, the lean mixture will tend to overcome heating. It is also more possible to drive a car with a leaner mixture on low gear than on high.

5. The Old Spanish Trail, now under transformation into a highway, will run from California to Florida, a distance of 3,000 miles.

6. In refacing a cone clutch, the area of surface is determined by multiplying half the width of the face by the circumference of the inner edge and add to it the circumference of outer edge.

7. One of the cheapest ways of exhausting a storage battery is leakage of current caused by the interior of the battery box or the batteries becoming wet. Be careful of your battery when you wash your car.

8. Light and twelve cylinder engines have an arrangement of two water pumps in a single unit. In some systems a single inlet is provided but usually there are two outlets.

9. A honeycomb type of radiator is made of a number of hexagonal tubes joined together in a way as to allow space between the tubes for the water. It is considered an expensive construction.

10. The following parts of a motor car should be oiled, greased or inspected for their need of lubricant every day: 1—Crankcase; steering knuckle; 2—Steering cross rod; 3—All spring clips and spring connections; 4—The eccentric bushings; 5—Twist universal grease cup; 6—Brake lever connections.

## NEW QUESTIONS.

1. How can celluloid automobile windows be repaired at home, neatly, efficiently and cheaply?
2. What are some things to observe in cleaning a new motor car?
3. After inserting an inner tube in a casing, what important thing should be done before the tire is mounted on its rim?
4. What is an emergency repair for a broken spring?
5. What is the motor construction of some of the new motor cars?
6. In going down hill against compression, does the resistance of compression produce the only braking effect?
7. How can the sag in the top of a car be straightened out?
8. What is the safest way to park a car on a grade?
9. What is the best way to park a car in congested traffic alongside the curb when you have to get in a small space between two cars?
10. How can a car owner etch his initials or other mark on his car for identification in case of theft?

## CANADA RANKS NEXT TO U. S. A.

Canada is now the second nation in the world in the manufacture of automobiles, number of cars owned and the per capita distribution.

The United States takes first rank, with Great Britain second.

Figures compiled by the Motor Bus and Motorize the Farm Bureau of the Goodyear Tire & Rubber company shows that one person in every fifteen in the United States owns an automobile, while one in every twenty-three is the percentage in Canada. In Great Britain but one person in every 268 owns a car. The percentage in France is one to 102, one to 64 in Germany, one to 1,000 in Italy, one to 2,700 in Austria, and one to 5,300 in Russia.

The total number of cars registered in this country is approximately 7,100,000, in the Dominion 350,000, and in England 150,000. Canada showed increased registration in 1919 of 13 per cent. Ontario was the banner province, with a registration of 127,860 passenger cars and 11,423 trucks. Saskatchewan, Alberta, Manitoba and Quebec rank in the order named.

Canada employs 15,000 workers in the automobile industry, which represents an investment of \$50,000,000. In 1919, 94,000 automobiles were manufactured in the Dominion, with a total sales for the year of approximately \$100,000,000. The annual wages of persons in the industry totals \$15,000,000.

Rural Canada owns more than half the cars operated in the Dominion, and in the prairie provinces the percentage is greater.

It is estimated that the total Canadian production of automobiles in 1920 will be increased 35 per cent over 1919.

## Why They Spend

Observers are said to regard it as significant that the states which will spend most freely for better highways and which manufacturers depend upon to buy the most motor trucks in 1920 are states in which farming is the predominant occupation.

It is estimated that Kansas, which will spend \$8,000,000 on road improvement, will buy 20,000 motor trucks this year.

Minnesota has a road building program calling for the expenditure of \$11,127,086. As an illustration of what the farmer in that state thinks of the motor truck a statement recently issued by a bank in Minneapolis might be cited, in which it is said that "trucks in large numbers, intended for immediate use in marketing grains, are being sold to farmers." Elevator scales in many places are being remodeled to accommodate the growing fleet of farmers' trucks.

Iowa, potential buyer of many motor trucks, will spend \$20,428,534 on better highways.

## Lincoln Car in Production Soon.

The vast plant of the Lincoln Motor Company in Detroit is completed in all details. The Leland, famous motor builders, are rushing into production with one of the best equipped factories in the automotive field. No expense has been spared, it seems, to make the Lincoln live up to the name by which it will be known the world over.

## Race Driver Joins Cole Forces.

Howard (Howdy) Wilcox, winner of the 500 mile Indianapolis race in 1919, has been appointed research engineer of the Cole Motor Car Company in Indianapolis.

## USED CAR SECRETS EXPOSED TO HELP THE UNINITIATED

At this season of the year, and particularly at a time when new car production has been cut down considerably, there is greater activity in the used car field. Many thousands of prospective owners will need some advice on the purchase of a used car so as to be able to avoid buying a wreck with perfectly good money.

It has been said that a used car is no better than the dealer or man who sells it, and there is a great deal of truth in this. In our larger cities the newspapers are filled with so-called blind advertisements of owners who "must get out of town," or which give some such excuse for selling. The buyer should be careful of the greater number of these because they may be simply poor propositions handled for the dealer by some person who is supposed to be the owner.

The best place to select for looking over used cars is the salesroom of some reputable dealer in the automobile section of the city. If you are interested in a used Hudson, go to the Hudson dealer; in a Hupmobile, go to the dealer in that car. In this way you are sure at least of getting a car that has been put in shape properly and not "jobbed up" for a sale. Often, however, a dealer will have makes of other makes in his shop, and naturally so, because all sales are not to previous owners of his car.

It is usual for a dealer to give the exterior of a car the best appearance possible so that it will strike the fancy of the buyer, especially if his wife is strong. Good external appearance is, of course, essential, but for the time being it should be neglected. The chassis should be gone over, and if found satisfactory then attention may be devoted to the condition of the upholstery, the top, curtains, paint, and other items. These are matters which are not important in the running of a car. A good body won't keep a car running.

It is a most difficult matter to tell by a mere drive around the block whether the car is in perfect condition, especially if the street is smooth.

Rattles and squeaks caused by loose parts are noticed only on rough roads. Hence it is wise when trying out a car to take it first slowly and then at a fair rate over a bad piece of road.

Never take a dealer's word that "that can be fixed up in a jiffy." Do not take a car unless it is "fixed up," and to your satisfaction. Never take a car with certain parts of the equipment missing, which "will be sent to you just as soon as they come." Half the time they never come or are delayed until the end of the season.

In order to determine the fitness of the used car you will have to drive it yourself to see whether there is undue play in the power transmission system. A bad clutch or a worn transmission can be "overcome" by good driving, and the demonstrators usually are good at covering up such spots. Brakes should be tested so that a reining job is not necessary the first week you have the car.

Few owners pay the attention to the ball bearings that these latter deserve. They usually wait until the garage man calls attention to the injury done by breakage. At least once in six months ball bearings should be inspected, the rough or worn balls replaced with perfect ones, and the ball run filled with graphite grease.

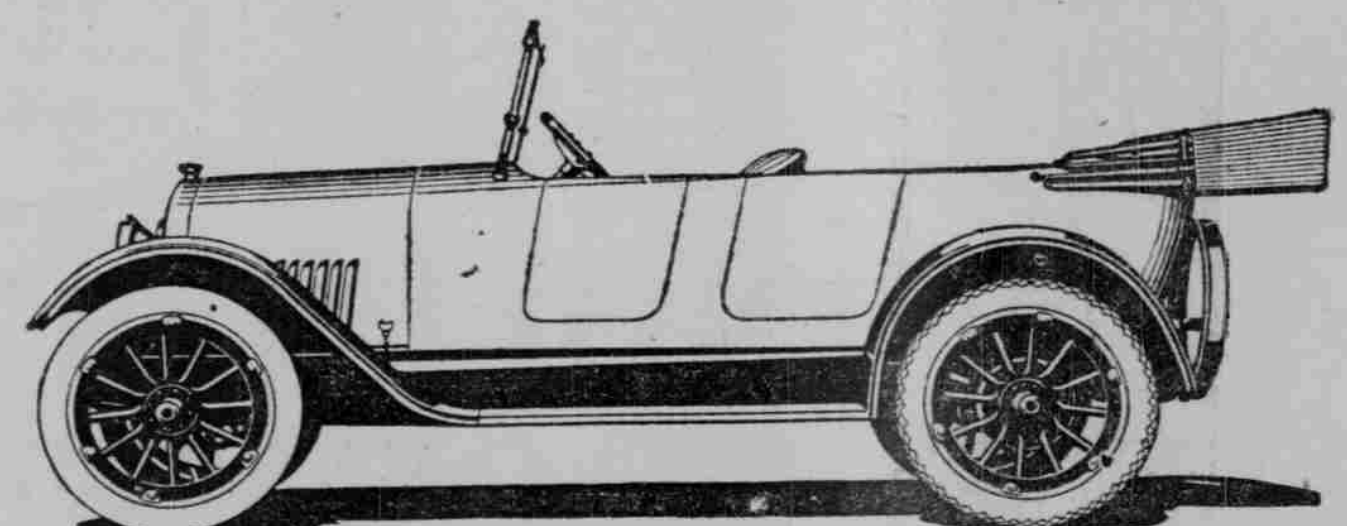
Clutch spinning is often due to excessive friction in the spring thrust bearing, though sometimes faulty alignment of the flywheel and clutch cone prevent the engaging surfaces from entirely clearing each other. A bent clutch shaft might also cause this trouble.

CHEVROLET

Chevrolet "FB 50" Touring Car, \$1405

\$1405  
F. O. B.  
Hammond

We carry a full line of Tires, Tubes and Accessories. Also a full line of parts for Dodge, Oakland and Chevrolet cars, at both our Hammond and Indiana Harbor salesrooms.



## Bohling Auto Sales

N. E. Corner Douglas and Hohman Hammond  
Michigan and Grapevine Indiana Harbor  
Telephones: Hammond 266 Indiana Harbor 78

## — ? — ? —

Does your starter turn your engine over fast enough to start your car?

Does your generator charge and keep your battery up?

Does your engine miss?

Does your car heat up?

Has your car power?

Do your lights burn?

If you can't answer the above questions come and see us.

GOULD BATTERY SERVICE STATION

NATIONAL CARBON SERVICE STATION

GOULD BATTERY SERVICE STATION

BALL BEARING AND ROLLER BEARING

SERVICE STATION

## Auto Electric Equipment Co.

701 Hohman St.

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Experts on Batteries, Magnets, Starters and Generators

## OLD AUTOS

If you have an old automobile—even though it is not in running condition—I will pay you cash for it.

Also I buy old tires, tubes and auto parts from any make car.

Tel. Hammond 2728 and our truck will call for anything in the auto line you may have.

## Maurice E. Ein

GENERAL AUTOMOBILE SALVAGE

Office and Yards Calumet and Conkey Ave., Hammond. Tel. 2728.

I sell auto parts that are as good as new, and may have what you want. See me today.

## The Low Cost of Good Gas

Whatever commodity renders the maximum of service, that is the cheapest commodity in the end—

But you pay no more for TEXACO GAS and yet you get the maximum of service. That fact is further attested to by the following

## SERVICE STATIONS

## HAMMOND.

ACORN GARAGE, Williams and Hohman sts.  
H. J. WHITE, 47 State st.  
AUTO CONSTRUCTION & REPAIR CO., 152 Fayette st.  
AUTO SUPPLY CO., Hohman and Douglas sts.  
BOMLING AUTO SALES CO., 707 Hohman st.  
CALUMET AVENUE GARAGE, 773 Calumet ave.  
CALUMET VULCANIZING CO., 479 Calumet ave.  
CHAMPION AUTO CO., CHAMPION AUTO EQUIP., MANT CO., Forsythe ave.  
EAST HAMMOND GARAGE, Near Columbia ave.  
EAST SIDE GARAGE, Cor. Calumet and Becker st.  
ECLIPSE DUMP BOX CO., 226 Fayette st.  
E. EPPER MOTOR CO., 533 Hohman st.  
ELLIOTT & NIELSEN, Summer st. and Columbia av.  
EVANS TIRE SERVICE, Sibley and Sohi st.  
GRANGER & WHITAKER, 484 Hohman st.  
GOODYEAR VULCANIZING & RETREADING CO., Calumet ave.  
HAMMOND TIRE & REPAIR CO., 773 Calumet ave.  
HOBBS GARAGE, Carroll, near Calumet ave.  
LANGFORD TIRE & SUPPLY CO., Hohman st.  
LAKE COUNTY AUTO SALES & SUPPLY CO., Hohman st.  
OAKLEY GARAGE, Oakley ave., near Logan st.

## O'NEILL AUTO SALES CO.,

Calumet and State st.  
SLIGES BROS., 514 Hohman st.  
SOUTH SHORE FILLING STATION, 83 Russell st.  
SQUARE DEAL GARAGE, 160 Fayette st.  
U. S. TAXI, 668 State Line st.  
YELLOW CAB CO., 150 Fayette st.

## SCHERERVILLE.

JACKSON HIGHWAY GARAGE, Jackson and Lincoln highway  
LINCOLN HIGHWAY GARAGE, 402 Lincoln highway and Penn. R. R.

## INDIANA HARBOR.

J. GALVIN & SONS, 3511 Michigan ave.  
CHIEF GARAGE, 3736 Elm st.  
INDIANA GARAGE, 3451 Michigan ave.  
NICK ANDER, 3802 Euclid ave.  
HARBOR GARAGE & MACHINE CO., Guthrie and Michigan.  
MAKES COMMUNITY GARAGE, Dickey Place road.  
4014 Kennedy ave.  
E. W. EUBANK, LOHLING AUTO SALES CO., Michigan and Guthrie.  
COUNTRY ROAD GARAGE, 3588 Guthrie st.

## WHITING.

WHITING GARAGE, 434 Indianapolis blvd.  
TUMMADA AUTO REPAIR SHOP, 817 Indianapolis blvd.

## HESSVILLE.

E. QUENTER, Black Oak road.  
DEDELOW BROS., Kennedy ave.

## HIGHLAND.

GRIMMER GARAGE, Kennedy and Ridge road.  
DYER, CHAS. KEILMAN, Hart and Lincoln highway.

## GRIFFITH.

J. O. RUSSELL, Main and Junction ave.  
MAT MILLER, Main and E. J. & E. R. R.  
ST. JOHN, JOHN MILLER, 4515 Forsythe ave.  
EAST CHICAGO, A. E. C. GARAGE, 508 Chicago ave.  
CHICAGO AVENUE GARAGE, 508 Chicago ave.  
MILLER TIRE & REPAIR SHOP, East Chicago.

## MOREHEAD OIL CO.

Telephone 333

Hammond, Indiana



## About Studebaker Mechanical Features

5-Pass. Light 6

\$1545

112-in. Wheel Base

Special Six

\$1925

119-in. Wheel Base

Big Six

\$2425

126-in. Wheel Base

The real worth and ability of any car must, in the final analysis, be judged largely from the standpoint of the correctness of its chassis design and the construction.

The features to be sought in the modern automobile chassis design are simplicity, proper distribution of weight and accessibility, combined with strength and solidity of construction.

The Studebaker chassis have been designed throughout with these fundamental characteristics in view, and no effort or expense on the part of the Engineering Department has been spared to produce the best results.

## P. J. Bauwen's Auto Sales

645 Hohman Street, Hammond.

Tel. 247.

Distributor for Hammond, Whiting, East Chicago and Indiana Harbor.



## The Jackson Six Sport Model

The beautiful Jackson Sport Car expresses in its own way the distinctive merits of factory practices which permit of a high degree of handwork in the building of a motor car. Craftsmen long experienced and trained to Jackson standards have artfully fashioned this attractive model. The cleverness displayed in the individualistic harmony of appearance, from the hand built California top to the daring enameled steel disc wheels, deftly supplements mechanical worthiness in every unit of construction.

This policy of using handwork wherever it is superior to machine work—a practice unusual in these days of forced production—is still one of the distinctive features of Jackson standards. You will find it exemplified in the skillful balance of every unit of the chassis, and the expertness in which every part of the body is hand-molded and fitted such careful and painstaking methods account for the characteristics of honesty and sturdiness which have marked every Jackson for over 16 years.

Arrange to inspect this irresistible Jackson Sport Car—ride in it. Its spirited lines and alluring combination of finish and appointments will fascinate; the responsiveness of the car under every whim of the driver will be a revelation.

## Jackson Auto Sales

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